WHAT IS CLAIMED IS:

1. A method for adjusting an optical system of an energy beam apparatus, comprising:

detecting mark signals by one-dimensionally or two-dimensionally scanning a mark having a one-dimensional or two-dimensional periodic structure with an energy beam; and

determining a variation in a positional relationship between said mark and a beam scanning region based on a phase deviation of said mark signals.

2. A method for adjusting an optical system of an energy beam apparatus according to claim 1, further comprising detecting said phase deviation of said mark signals based on a phase deviation of moire′ signals that are obtained by calculating said mark signals and a reference signal having a different frequency than said mark signals.

3. A method for adjusting an optical system of an energy beam apparatus according to claim 2, wherein said moire′ signals are obtained for two reference signals that are higher and lower, respectively, in frequency than said mark signals.

4. A method for adjusting an optical system of an energy beam apparatus according to claim 1, further comprising:

binarizing an offset-removed component of said mark signals; and

detecting a phase deviation of said mark signals based on a phase deviation signal that is obtained by calculating a product of said binarized mark signals and averaging a resulting product signal.

5. A method for adjusting an optical system of an energy beam apparatus according to claim 1, further comprising:

detecting a phase deviation of said mark signals based on a phase deviation signal that is obtained by calculating a product of said mark signals and averaging a resulting product signal.

6. A method for adjusting an optical system of an energy beam apparatus, comprising:

preparing a mark having a one-dimensional or two-dimensional periodic structure;

detecting a first mark signal by scanning said mark with an energy beam, said mark being set on an optical axis of said optical system;

detecting a second mark signal by scanning said mark with an energy beam, said mark being located at a position that is deviated from said optical axis of said optical system; and

determining a deviation of a deflection position based on a phase deviation between said first and second mark signals.

7. A method for adjusting an optical system of an energy beam apparatus according to claim 6, further comprising detecting said phase deviation of said first and second mark signals based on a phase deviation of moire' signals of said first and second mark signals that are obtained by calculating said first and second mark signals and a reference signal having a different frequency than said first and second mark signals.

8. A method for adjusting an optical system of an energy beam apparatus according to claim 7, wherein said moire' signals are obtained for two reference signals that are higher and lower, respectively, in frequency than said first and second mark signals.

9. A method for adjusting an optical system of an energy beam apparatus according to claim 6, further comprising:

binarizing an offset-removed component of said first and second mark signals; and

detecting a phase deviation of said first and second mark signals based on a phase deviation signal that is obtained by calculating a product of said first and second binarized mark signals and averaging a resulting product signal.

10. A method for adjusting an optical system of an energy beam apparatus according to

claim 6, further comprising:

detecting a phase deviation of said first and second mark signals based on a phase deviation signal that is obtained by calculating a product of said first and second mark signals and averaging a resulting product signal.

11. A method for adjusting an optical system of an energy beam apparatus, comprising:

preparing a mark having a one-dimensional or two-dimensional periodic structure;

detecting a first mark signal by scanning said mark with an energy beam, said mark being set on an optical axis of said optical system;

detecting a second mark signal by scanning said mark with an energy beam, said mark being in a state for changing a driving condition of a lens to be axially aligned; and

determining a deviation between an energy beam optical axis and an axis of said lens based on a phase deviation between said first and second mark signals.

12. A method for adjusting an optical system of an energy beam apparatus according to claim 11, further comprising detecting said phase deviation of said first and second mark signals based on a phase deviation of moire' signals of said first and second mark signals that are obtained by calculating said first and second mark signals and a reference signal having a different frequency than said first and second mark signals.

13. A method for adjusting an optical system of an energy beam apparatus according to claim 12, in which said moire' signals are obtained for two reference signals that are higher and lower, respectively, in frequency than said first and second mark signals.

14. A method for adjusting an optical system of an energy beam apparatus according to claim 11, further comprising:

binarizing an offset-removed component of said first and second mark signals; and

detecting a phase deviation of said first and second mark signals based on a phase deviation signal that is obtained by calculating a product of said first and second binarized mark signals and averaging a resulting product signal.

15. A method for adjusting an optical system of an energy beam apparatus according to claim 11, further comprising:

detecting a phase deviation of said fist and second mark signals based on a phase deviation signal that is obtained by calculating a product of said first and second mark signals and averaging a resulting product signal.

16. A method for adjusting an optical system of an energy beam apparatus, comprising:

preparing a mark having a one-dimensional or two-dimensional periodic structure;

setting two small fields that are smaller than energy beam deflection-test regions so that a boundary of adjacent two of said small fields are in contact with each other, said boundary being set on said mark;

detecting, for adjacent two small fields, mark signals in an overlap region of deflection-test regions by using said mark; and

adjusting said optical system so that said mark signals for said adjacent two small fields coincide with each other.

17. A method for adjusting an optical system of an energy beam apparatus according to claim 16, further comprising detecting said phase deviation of said mark signals based on a phase deviation of moire' signals of said mark signals that are obtained by calculating said mark signals and a reference signal having a different frequency than said mark signals.

18. A method for adjusting an optical system of an energy beam apparatus according to claim 17, wherein said moire' signals are obtained for two reference signals that are higher and lower,

respectively, in frequency than said mark signals.

19. A method for adjusting an optical system of an energy beam apparatus according to claim 16, further comprising:

binarizing an offset-removed component of said first and second mark signals; and

detecting a phase deviation of said first and second mark signals based on a phase deviation signal that is obtained by calculating a product of said first and second binarized mark signals and averaging a resulting product signal.

20. A method for adjusting an optical system of an energy beam apparatus according to claim 16, further comprising:

detecting a phase deviation of said mark signals based on a phase deviation signal that is obtained by calculating a product of said second mark signals and averaging a resulting product signal.

21. A computer useable medium for causing an optical system to execute the method of claim 1.

22. A computer useable medium for causing an optical system to execute the method of claim 11.

23. A computer useable medium for causing an optical system to execute the method of claim 16.